Roland Thaxter's

Descriptions

of

Species

&c.

AMEE BROS., 5 Harvard Square, Cambridge, Mass.

Roland Thaxter.
May 1883.

1

Scopelosoma Morrisoni.

Eggs laid on bits of oats, bark and twigs
Deposited 22 and subsequent days. Eggs also on
Strawberry and Stem plants. Flattened
inferiorly with a circular superior depression
from which radiate beaded ridges. Large
transverse diam about .6 m.m. Color
straw color changing to reddish and black
as larva develops.

Eggs Hatched May 4 et. seq.

Young Larva. Livid yellowish-green with
superior and anterior blackish tinge.
Head large - jet black. Prolegs and in some
specimens feet: black. A frontal
black shield or reg. 1. Spun leaf together
like a Tortrix. After feeding - color light
green with a few blackish marks.
A few colorless hairs. L. 1.5 mil.
When mature indications of a dorsal
subdorsal and lateral streak. Color
light-green darker anteriorly: head small
Makes itself a case either under bud or
between the ribs of the leaves like a
Tortrix. Sticky hard to handle. Turns
brownish yellow before changing skin
Raspberry chewing gooseberry.

After 1st Moult May 15 — 11 days.

Above dull purplish darker in the subdorsal region ringed with green. Below dull yellowish ex. dorsal line & purplish subst. stigmatal a faint lateral line whitish, the S.ds fine and less clearly marked especially the inferior of the two. Stigmatal and seta. Tub. blackish and indistinctly ringed. A few whitish mottlings above Subs. long. lines. Legs and prolegs black. Head and anterior shield. Length (natural) 6 m.m.

After second moult May 22 7 days

Much as before the markings more distinct especially the dorsal and lateral lines and the set. Tubere. Purple shades most prominent in region of stigmata. L. 10 m.m.

After third moult May 28 4=8 days. 6th

Markings as before but more distinct esp. the sub. stig. line which is faint on 3 anterior segs. Two white ringed set. Tub. placed diag. anter. → inf. post. very distinct. 2 similarly placed in dorsal region lat. to dorsal line somewhat less. so. Others indistinct. Legs with an extensive purplish shade and a few black pts. Prolegs black. Head and anal seg. light brown. Color above (and below on 1-3) dull reddish purple ringed w. green esp. dorsally. Below light green w. a violet of purple below the stigmatal line on each segment. Dorsal line w. a bluish tinge. L.

esp. by 1 on 123 and not placed diag. on 224

After 4th moult June 2 58

Marked as before but less distinctly: colors more dull and ground color darker.
L. 26 m.m.

After 5th moult.
June 8

Mature Larvae.

Dull blackish, with lateral dull purplish tinges. Dorsal streak indistinct blackish white somewhat irregular. ~~Dorsal~~ sub.d. lines broken but ~~quite~~ tolerably distinct the ~~upper~~ superior edged above and below with blackish. Lateral streak ~~clearly~~ white w. a bluish tinge. Stigmatal black. Sub. lat. line black pts mixed with bluish white, more below the lat. line more distinct. Head blackish ant. light shining brown port. The superior s.d. line ~~and~~ the ~~black~~ frontal shield very distinctly. ~~Form~~ ~~clouds~~ ~~sup. slightly~~ head large L 35-30 m.m.

2. Scopelosoma Walkeri.

Eggs laid as in preceding species and both them and the young larvae indistinguishable from it.

Eggs hatched May 5.

After first moult- May 16

Not distinguishable from (1).

After second moult- May 23

Somewhat darker and more tinged w. dull purple head much darker. Lower sub lat. line much less distinct. But veins as No 1 almost.) Not separable

After third moult- May 29.

Not separable Somewhat darker less distinctly mkd dorsally than No 1.

After 4th moult- June 5.

Much darker dorsally than No 1 being a rich almost black purple: the s.d. lines hardly visible and the d. line faint: the lateral line heavy and clear contrasting white ~~on the~~ tinged w. purple. Sub. tub. smaller than in 1. inferior purplish shades more pronounced frontal had blacker spot with

After 5 moult June 10

Much richer than 1 or 4.

Above velvety black, purple tinged w. green and fine dorsal and sub. dorsal lines barely indicated. Sit. lib. barely visible under glass except when below the lat. line which is clear contrasting white (dif from 4 in being white and 1 in being heavier and much clearer without bluish tinge) somewhat oblit. on 2 3 4 11 12. Frontal plate ~~shield~~ having sup. s.d. line clear & continuous it tinged w. yellow. Beneath bluish green. Sub lateral (and ventral on 1-4) pink shades. L.

Form as in 1 a little stouter.

Head as in 1 but more broadly dipped post. w. light brown.

Scopelosoma vinulenta

Egg laid as before.

Hatched May 9.

Young larva as in 1 2 perhaps a little lighter. Not varying in shade.

After first moult. May

~~Much as~~ lighter 3 mm. with little purple lateral shading

Head black lighter

After second moult.

Purple shade as in 1-4 confined to the region included by the lateral and supra-subdorsal lines. Nuchal, S.D. lines. Lunules visible. Dorsal portion distinctly blue-green divided by a dorsal line more continuous than in 1-4 but less contrasting than in (1) Tinged with green. Head lighter brown dusted with grey. 10 mm.

After 3rd moult.

Much as before the purple duller and shadowy defined. Dorsal and lateral lines more distinct. Head shining. m/S.D. line only indicated by a few dots. Nothing in the purple.

After 4th moult

Darker ~~and lighter lines over the~~
the dorsal parts slightly tinged w. purple
Lat. line very ~~heavy~~ light distinct contrasting
above Beneath bluish green ex. 1-4
tinged w purple w/ S.d. only indicated ex. on 1-2-3
else as before. 25 mm Head dark shiny red brown

5th molt June 13.

Mature Larva

Dorsal parts dark olive green somewhat
mottled. Tub distinct. Betw. S.d. cup. and
Lat. dirty wine color inf. S. d. line
marked by a few dots. Lateral l. line
distinct suffused w. purplish Beneath livid.
1-4 red purple else as before. Legs Head Brown

† Serpelosoma 8-stigmata.

Eggs as in N° 1. Laid May 5th ult.

Young larvae does not differ from N° 1.

After first moult. May 16. 11 days.

Not separable from N° 1.

After second moult. May. 22.

Not. sep. from N° 1. L. 11.

After 3° Moult May 28.

1st instar sign of a decided difference from N° 1.

Colour similarly but noticeably more richly brightly. The lines and spots more distinct- than white ringed tubercles in the dorsal region lying under the dors. line and [illegible] differs from 1 decidedly [illegible] lanceps [illegible] distinct. The [illegible] distinct. Else as in N° 1 same stg. L. 15.

After 4th moult from 3

Similar to N° 1 more clearly marked: the subtub. above mentioned of the same size but both much larger than in N° 1. The lines clear cut. individuality heavy 25 — —

After 4th month June 9.

Mature Larva

Much like (1) and readily mistaken for it but differing in the richer red purple color more indistinct S & S.d. streaks Color more uniform appearing frosted when used at longit. The most noticeable difference is in the labial band which becomes much broader post. and tinged w. orange yellow On the frontal shield the sup. sub.d. line does not extend ant. to head and is much less distinct. The ret. tub. under a glass are somewhat larger.

Entered earth June 16

5.

Scapulosoma devia.

♀

3 oms Larva milky (head black, legs prolegs, shield on 1 and 12 black. L. 2 m.m.

After 1st moult. May

Milky white cleaner than before black parts contrasting: subdorsal line black. A faint purplish lateral and dorsal line L.

After 2d moult May

Much as in vinulenta (Larva 25.) but paler.

After 3d moult.

Paler Lighter than any of the other species but nearest vinulenta from which it differs decidedly by a distinct subdorsal line and by the absence of purple shades on by 1-3 except just above the Lat. white line: dorsal surf. light dull blackish green mottled with whitish. Lower parts very light. Prolegs only. Black shield black

After 4th moult June. 10

Very like vinulata but much paler. Above greenish white w. a bluish tinge mottled with darker shades. Dorsal and subdorsal lines distinct (the latter slightly larger and very dist in frontal plate) both edged w. darker olive shades and continued thro' segmental vessels. The subdorsal and lat. lines is dark olive green tinged w. purple and dark inter. and w. a few white dots. Lateral line somewhat broader than vinul. but less clear slightly purple tinge at base of prolegs which are black. Head much lighter than vinul. and w. black frontally

After 5th moult June 15.

Mature Larva. (See Cat. [illegible])

6. Caloocampa vespera

Eggs laid in patches on Strawberry &c. flattened

Hatched May 7. Young Larva 1st Stage.

Light purplish blackish posteriorly. Body sparsely covered with blackish and dark chocolate setiferous tubercles. Head light brown. Thorax. Beneath greenish. Setæ moderately long curved. Black. Feet black. Prolegs greenish. Anal plate, blackish green. Hairs black tub. very distinct.

Second Stage. May. 17.

Dark green above light green tinged w. yellow below. Dorsal v. d. and broad lateral whitish streaks. Black dots as before less distinct. Head light brown numerous black dots. Very similar to

Third Stage May 26. 4th Spot

d. 2 d. [illegible] Head [illegible] Hairs black [illegible] Black dots very indistinct but broadly ringed w. [illegible]

4th Stage June 1

4th Stage June 1st.

Much as before colors and contrasts more distinct. The larva in this stage acquires the use of the two pr antennæ pairs of legs previously rudimentary. Specimens vary much in intensity of color some having the anterior edging of the lateral line almost black. Black dots hardly visible nip tracks.

5th Stage — June 5th

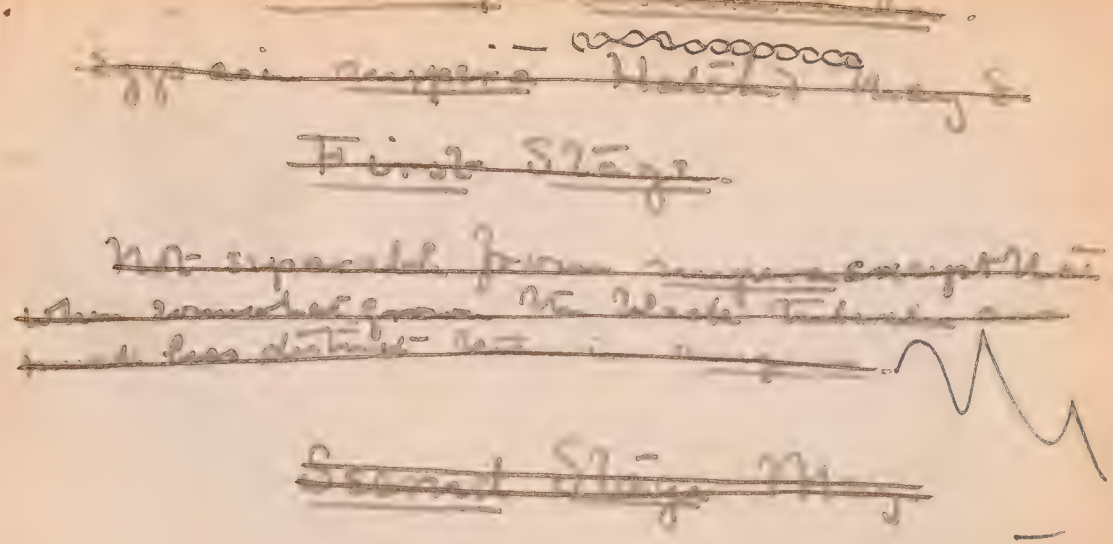
Lateral dorsal and sub. dorsal lines creamy yellow the first contrasting strongly with a black ant. edging. Stigm. Tinged w. orange. Varies from almost black green above to light grass green. On each side the dorsal line are 3 contrasting white dots the middle on placed transversally except on 1 (now) and 12 (1) on 2 & 3 the central dot is moved post. opposite the post ant. spot. One or more white dots on each leg. Below ed. resting in cocoon. Head light green. Jaws nibbling.

6th stage June 10.

(2nd Copy of S. Devia)

Nearest vinculata but a blacker looking larva. A broad dorsal black band mottled ill defined attenuated intersegmentally and including the hardly visible light dorsal streak. Rest of d. surf. greenish grey & black mottled. Sup. s.d. broadly edged w black but very indistinct on anal and 1st leg. Last line clearly defined white w. a fine black ~~line~~ nothing below this lastly black nothing to legs. Beneath light greenish grey black head ant. blacker than vinculata

7.



№ 7. Marasmalus ventilator.

Eggs laid on sumac. June 5th. Cream color soon changing to reddish by the appearance of numerous reddish dots.

Hatched June 10.

Light gray or dirty yellow gray with black ventr. tub. brown black tapering lens. 4 dorsal 2 o.d. and 2 o.c. rows. Head jet black. Legs and prolegs blackish at base. Frontal shield black. About 3 mm. Legs normal 5 pairs 3 prolegs.

Second Stage June 15.

dusky yellow in the intestine and contents showing through. The sub. d. rows of spots most conspicuous. The lateral line pigment. The upper lateral. Each row of spots (on dorsal) includes two on each segment. Head greenish yellow with a lateral fringe of closely set black dots. Legs light green. L. 4.5 mm. Short tap. post. Head somewhat retractile.

Third stage June 20

Powdery greenish white all the dots but the sub. dorsal and and sub. stigmatal are hardly visible. The habit very large and contracting. The sub. stig. dots on 223 smaller and placed tap. Spots in the form of rhombs yellow with greenish tinge. Two rows of spots on each segment. Head greenish yellow. Two spots on last segment before legs and plaps. Legs green. Eyes marked. Short with tap post. Normal. L. 7 mm.

4th Stage June 24.

One row of spots [illegible]

2d Mature Larva.

S pots much larger and reduced to a s. d.
row two on each segment the ant. about 2 x as
large as poster, and a stigmatal red
each spot round including a dipina
dorsal plate and frontal plate of 1 black Vee
latter terminating laterally and anteriorly in
two black dots. A black dot at base of Lip
and two of prolegs a large black lateral
reddish pulsar patch on 2nd larger diam touched
stig spatial
below as before. A fine white lateral line.

Mature July 3d went into moss July 5.

Saturniidae.

Hemileuca nineria.

Eggs laid on maple and willow May 29. Flattened finely not deeply ribbed dark robins egg blue.

Hatched June 7

First Stage

Dark rather dirty green. Thoracic legs dirty yellow. A broad lateral dirty whitish band. Ventral p. dirty reddish and light brown with a few hairs and several contiguous dark lateral dots. Body covered sparsely with fine black set. Tubercles (3 pairs) and prolegs light straw color hairs.

Second Stage. June 11.

Dull blackish green. Sub dorsal region of 7th & post segs dull reddish (glass) and indist. light lateral & 2 o. dorsal. and a darker dorsal line. Black points as before - Head mottled hairy. L. 15 mm

Third stage June 14.

Somewhat darker than before else same. 19 mm

4th stage June 19.

Packandia geminata ?

Eggs laid from 20 oak.

Hatched July 2 12 days.

№ 9. Crociapha Normani

Eggs on ~~strawberry~~ oak May 30. sq.
Light grass green a short time after deposition a red spot blotch appears at upper pole which is encircled by a similar red band this not completely. Egg thickened nearly but fed more.

Egg hatched June 5.

First Stage - Jn. 5.

Light grass green: paler inf. Large black retif. tub. bearing black armed hairs 2 subdorsal placed longitud. the post. placed rather anterior placed anteriorly below. the s.d. and l. separated centrally. Head light straw color with a lateral black patch. Prolegs and legs light green w. basal black rings. L. 4 mm.

Second Stage - June 9.

The dorsal sub.d. and head lat white lines else as before 7.5 mm.

Third Stage June - 11

Bluish green above; space betw. S.d. and Lat: much darker than dorsal. dimes more distinct Lat. gen. double Head light green tinged w. brown w. numerous small brown dots and two large lateral black patches. Sat. Tub. white ringed. 13 mm

4th Stage June 14.

[illegible] distinctly double except intersegmentally. 21 mm

5th Stage June 20

Reddish brown dorsally variegated a pair of wavy dorsal black dots in each segment. dorsal line blackish Stad S.d. region blackish mottled darker inf. contr. Lat double line which is tinged w. yellow. S.d. line moderately distinct. 2 black sub Lat dots placed diagonally. Segments blackish Bluish above Sub. Lat and at base of Sat. Head light brown w. large double lateral transverse patch and dark brown Sat bristles. 25 mm.

6th Stage from life.

Median Line.

As in preceding stage: the markings ill defined and the lines shading from middle towards ends. On 36 mm.

10 Homoptera 1-lineata

Eggs laid June 1. Color like No 8 [illegible]
Hatched June 9. First Stage

Dark green ant. last 4 segs tinged w. yellow
a lateral and 2 subdorsal whitish stripes
else as in quinquea.

Second Stage. June 12

~~Paraorgyia~~
~~on elm~~ June 17. ~~Body dark.~~

Lophodonta angulosa.

Eggs laid June 30. on oak ntd. Jul 5
Yellow green dorsal parts, dull red a s d and head
with lateral line dull red. Stage. Black. Head & feet black
and legs elongate

2nd stage 1st month- Jul 13.

Light bluish green above with a somewhat wrinkled appearance. 2 s.d. light streaks: an indef. yellow dorsal lateral band. S.L. part valvular lips dull red with light points. Head and prolegs black. An elevation on dors. 11. Elongat. last 3 segs raised. 13 m.m.

3rd stage. 2nd month- July- 19

A clear bluish green dorsal line on either side a broad bluish white band. a narrow sub. dorsal bluish white line edged above and below w. bluish green and also an inferior irregular pinkish white. A clear greenish yellow stigmatal line edged above w. dull red. Sub. lateral irregular dull reddish marks. A 2-2 pointed prominence on 11 segment s. wd. Stig. resp. plug black segs. w. an ext. blackpatch. Rest without elevation, Feby. 2. 18.

4th stage. July 24.

Lateral (stigmatal) line very distinct edged above and below w. red - a long. sub stigm red slash on 1-4 mid. Above bluish green, white a broad blue green line. 2 d. white lines edged w. blue green. Body black. dep green. head blue green w. black mouth parts Brown all over

27 mm.

5th stage July 24. Mature Larva

Lateral yellow band more heavily edged w. purplish red 2d s.d. line = long. yellow spots. A number of yellow spots on inf. surf. Red glands less conspicuous on 1-4 and 11. Small hair processes on 11 on d² stigm yellowish. Head green mottled w. black mouth edged (externally &) in front w. yellow.

Cocoon in moss Aug 8.

No 11 Mamestra renea

Eggs laid June 9. white w. a bluish tinge.

Hatched June 14.

Rather rich yellow green. A row of s. d. almost d. black sub. tub. (brain) black short lines set longit. 2 on each eg. 3 rim eggs tub. placed but on each eg. port. 2 ant transv. 2 on 1-3 abt placed transv. head light green mouth somewhat notched and w. a tot crescent of 4 black dots closely set. L. 4.5.

2° Stage June 20.

Black tub. minute. Colors less vivid. A dorsal. 2 sub d. and a lat. light streak. Lines as before. Under 4 mm.

3° Stage June 25

As before but the [illegible]

4+ stage June 30

Nº 12. Euchaetes Lucina

Eggs Coral Green ? olive green Cup shaped with a corona of white dots and a central apical green spot. ○

Hatched June 24! 15 days!

Heliconius Ismenius

Laid July 11.

Hatched July 20

N° 13 ~~Euphisia 3-lineata~~

~~Eggs laid June 10.~~

Apatela Lobeliae

Egg laid. June

~~Hatched~~ Hatched June 22

Light green, Segs 1, 3-4, 7, 8, 11 dark red purple dorsally. Numerous long black hairs, White light yellow w. a few brownish marks.

2d Stage June 25

3d Stage June 28.

A dorsal yellow line broken on 4, dors. 3 4 7 8 11 dark brown somewhat mottled: subdorsal region yellow green: sub lat. brown mottled a trifle s.d. yellow line. Hairs long black ca. [illegible] grey. Head yellow w. two [illegible] dorsal segments black spots and two [illegible] on [illegible]

4th Stage July 1.

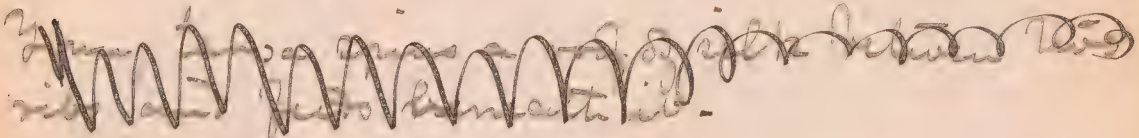
5th do. Jul. 5.

6th stage Jul 9

7th st. Jul 14

Marasmalus dis trio

All stages found on sumac July 16. '13.



Light yellow green without visible markings
Tapering post. L. 3 m.m.

2d stage

Greener anteriorly and more rounded. A faint
s.d. and l. line. A few faint whitish
dots scattered over body. Head yellow green
~~Posterior segment yellowish~~. L. 5 m.m.

3d stage

Longitudinal lines, and dots distinct. Body
smooth swollen anteriorly somewhat like
papilio L. 9 m.m.

4th stage

More distinctly marked and darker green
the same L 15 m.m.

Malaria larva 5th stage.

The sub. dorsal (almost dorsal) lines heavy indistinct on the most anterior segments. A faint ill defined stigmatal pulsating stripe. Stigmatic tufts orange. Body sparsely covered with flat bristles & yellow prominences of irregular size and shape. Oesophageal green strongly tinged w. yellow anteriorly. Legs pale and head green. Anal segment anteriorly tapering post. [illegible]

Crown in bunches of blackish silk.

Chaetura propinqua

Last 6th

Hd 11 pt 19

Very low dimorphous but darker
Upper green much darker sup. a d. row
of large clear red spots abundant. 1 2
Each eye. w. a large brain. row of 2nd
Tub- of which the red spots are very
very close Rem. Rect 5x as 1/2 1 1/2 1 2. 2 long
1 wide Later long. a somewhat wrist. d. in
Lat. fulvous tinge. Head tinged w. a fine
reddish palatus. L. 2. 4 m m.

2d stage July 24

Much as before darker w Hackii extensive
Tips. 4 m m.

Ich Thyrsa indulata Pack.

Found singly in cases on willow. Will eat poplar. Very like stinjosa but the yellow warts more conspicuous. Markings much as in stinjosa but less distinct and this varying considerably Seldom never as dark as stinjosa type. Separable at once by its black stigmata and brown head the head of stinjosa invariably black even in the albili examples. Cocoon Sept. Imago May-June. 2nd brood Aug. Head sometimes nearly black but dull black. Stigmata invariable 13 examined.

Heliocampa "humea"

Ld fl 1. Ld 1. Egg light Flesh green.

Dull red brn brown w. many fine longit. lt lilac streaks. subdl. dors. & subdors shadgs. dsp on 11. Head dull black.
A remarkable 3. branched toothed projection from ant. 1 the branches curved and divergg: these proj. connected by a fine
Cra. 4 S. 1 12 a pair of similar branched projections rise on 5 the shortest. L. ½"

2d Slaty July 23.

Red brown variegated with yellow. A dorsal yellow line widens into a longenge shaped patch on 4. & ends again widening from pnt of 5 and ends on — subdors w. red: a wedge shaped red patch on 11. 12. dorsal. Head black. L. 9 mm.

3d skin July 28.

Longenge patch shows and large swelling with somewhat white dots and spines. Dors. & subdors pnt on 5. Remaining portions marked as [illegible]

4th Stage Aug. 3

As before: Nw and predominating, and Nw portion
wedge shaped patch indicated by two converging
(vert.) red lines. A faint broad red. obl. line

5th stage Aug. 9. Mt Tam Lunch. 23 mm

Obl. hyp-linear i prec.

Heteroscampa Manthusia

Lail Jl. 11 Hd 20.

Light green with a much broken dorsal red band. A pair of projections on ant 1 red + yellow at base. Anal pair of lyp dusk. as in cerura red and limit yellow abt. subanale L. 6 mm to tip tail 10.5 mm

2d stage Jul 25

Broad band continuous, enlarged centrally on each segment noticeably on T 2 & 3 edgd w. yellow — Paint very oblique behind lines from s. d. yellowish line from ant of 1 to 2 the same b. portion of 2d portion 3 & 2 or 3 Sat. red dots. Head yellowish.

3d stage Aug. 1.

Broad line herein contracted intersegmentally mostly edgd w. yellow. body covered w. minute black points. a lateral stigmatal row of red spots edgd w yellow ^ meeting in many a V on 4 & 5 usually double. Head brn also green edgd w. red and bottom w yellow. Tail subanale L. 11 to tip 6 mm

4th stage Aug 8.

Much as before: the diag. streaks more distinct and the lateral red spots less frequently present

5th Stage Malum Canon Aug 17.

Light apple green often tinged with blue a clearly defined heavy crimson dorsal line. (the lateral red spots rarely present (in case of this brood). showing a tendency in some specimens to enlarge as in stage 4 & 10 11. Varies very much. In some brood mottled w. pinkish in others fine and nearly white. Head more nearly white. The oblique dash (passing thro stigm) in 3-4 most consp: greenish yellow ill. The 8 oblique dash passes down and back to the anus in a distinct heavy greenish yellow streak. Tails yellowish white to pink 5 no

Powdering of dark dots on inferiorly and near the dorsal base. 40 mm more or less varying much in size. Rests raised on both sides of leaf. Lines dull pinkish purple before making a thin cocoon near the surface of the ground in which it hibernates. Take the middle of June.

Image appearing in July.

Nonagria subflava

Larva and pupa in reeds July 15.

Dull white tinged with blueish green, without marks except a few small brownish wart tub. bearing the usual colourless hairs: 1 larger than the rest just post to stig. on above stig and 2 dorsal pairs the post estimated to the anterior on 2-3 a transverse row of 10 besides the post stigmatal stigmata white black ringed. Frontal shield dirty light brown inflected post and ext. head light shining brown w. darker mottlings very small. Very long and slender L. 50 mm diam abt. 4.5 mm.

Larva eats about a foot from the base of reed and eats its way down to base. Running it endangers its burrow to within about 3 inches of its entrance hole and spins a ~~fine~~ web thin ~~cocoon~~ web in the axis of the reed large enough for the ~~larva~~ to escape thro'. It spins a ~~fine~~ web at the summit of its burrow diagonally across so that the ~~web~~ the

Carbodays ~~Valeurs~~

~~Expl~~ July 86: R. Cat[illegible] Le Cheyzeo

~~Nonagria oblonga etc.~~

Arzama ~~diff~~ obliquata — dirty

Before last moult. ~~Below livid whitish~~

Dorsal region dull reddish with a central olive tinge. Lateral parts lighter reddish. The stigmata black. A few dorsal blackish shades on 1-3 and two elongate black stigmata on the post edge of 11 placed transversely. A longitudinal somewhat irregular sub dorsal furrough placed slightly diagonally on each segm. Two sub. lateral furroughs (longitudinal) and a transverse posterior and less noticeable ~~anterior~~ furrow on each segment. A ventral ~~heart shaped~~ [illegible] depression on each segment. Frontal shield light brown w. central whitish line and two anterior whitish depressions. Head dark shining brown. A few minute black points scattered on body bearing minute black hairs. A arch abdomen somewhat convex. Flattened tapering slightly and elongated. The numerous hairs so that the [illegible] it means little resemblance.

Pinnacles under [illegible] [illegible] which upon finely [illegible]

Mature larva

More flattened than before. Color dead black with a very faint tinge of white dorsally. Lighter beneath. No hint of color. Head almost black mahogany also frontal shield. Anatomy of legs etc. Stimuli on leg. 11 very interesting ~~probably~~.

Feeds on stem of Typha burrowing into base of reed.

Sphida obliquada ?

In pickerel weed. Hardly reparable from the above average smaller with tinge of olive green. A hundred found Sep 19 – 20 also in bur reed. Same anatomy (curious arrangement of Malpighian like Tracheae) Eats in leaf stems and plant stems: might have found hundreds.

Apatita occidentalis.

On apple. Of the lobelian group the larva having the same habit but only approaching the same coloring in its early stages. Makes a nest on two leaves.

under glass seem to be powdered w. black spots.

A broad dorsal blackish black band ending in a large hump on seg 11. Edged ant. and ext. w. deep black. On segs 4-10 inclusive is a peculiar ◇ shaped ornament consisting of velvety black ground in which are included two small spots placed longit. forming a dorsal row of dark orange spots (absent on 9:10) two brownish black spots placed externally to the posterior end of each anterior orange spot. And externally of all a straw colored spot forming a s.d. row. A broad s.d. pale lilac band broken by the dorsal ornament and a similar narrower and less bright

Tentacles [illegible]. Whole colonial portions very pale purplish thickly powdered with black atoms (under glass). A yellowish tubercle bearing several brownish hairs just above behind and below the black stigmata and another much larger one at base of lobes. A fine central dorsal yellowish line on 1-3 and a transverse row of tubercles (also on 13) yellowish bearing long yellowish brown hairs those on 1 projecting horizontally forward. Head dull red port fading into dull black and: An arrow shaped anterior mark. Polyps black. L. 35 mm. Corozos Sept 20 – 31. 7 specimens on Apple.

Drawn from drawing sent by Riley -

Heliocampa gutticollis.

Eggs light-bluish green. June 15th Hatched 27.

Feeds on oak, apple, walnut (in nature)

Dull red with an ill defined yellowish dorsal patch on 9 & 11. Two 4-branched spinous projections placed sub-dorsally on 1 and a sub dorsal row of 2-jointed spines on Sg. 4 & Most portion Brit, each having a fine hair at apex. 3 mm.

2° Stage. July 2d.

Dirty reddish greenish yellow on last two Segs. a sub-dorsal greenish yellow line. All spines as gone except two points on s.d. 1. 8 mm.

3° Stage. Jul. 6.

Yellowish green with red lines. A s.d. yellow with white band broken on 6 by a reddish mark running onto first pair of legs. A red mark runs dia. up and forward from last pair. Last pair of legs red. Various reddish marks dorsally. 3 last Segs. much mottled with red. Head greenish with a double red brown line from

jaws to open on either side. Dorsal lobe of heterocamptha. L. 12 mm

45 July 13

Varies from [illegible] apple green [illegible] dark
a. [illegible] median colored band [illegible] not
[illegible] 1 a mid dorsal band on 2 & 3
[illegible] a fine dorsal white [illegible] the 3rd
[illegible] specimens [illegible] on 4 and [illegible]
[illegible] [illegible] [illegible] and large red
dorsal [illegible] which [illegible]
[illegible] 1st pair of legs [illegible]
[illegible] [illegible] [illegible]
[illegible] dorsal marks on [illegible] and display
[illegible] ant. 2 post more [illegible] which [illegible]
[illegible] [illegible] [illegible] [illegible]
may [illegible] [illegible] [illegible] [illegible] Some
specimens have various [illegible] marks and
[illegible] [illegible] [illegible] [illegible]
2 short dorsal [illegible] [illegible] [illegible]
a [illegible] and mark [illegible] to 4th pair [illegible]
[illegible] [illegible] [illegible]

Apatela lepusculina.

Egg laid on glass. June 15. Hatched June 20.

Larva. Live greenish with a row of large dusky red wtish. tub. placed transversely on each reg. bearing long blackish hairs. Dorsal tubercles on A 7 8 much larger bluish and forming transverse red patches. A Red Mark on 11. Head dusky red. l. 2.5 mm.

First moult July 5.

2 Form. dull green the reddish blotches larger confined to dorsal & sub-dorsal regions Subs brown black long stout hairs in S.D. 2 reg. colourless head: w. darker mottlings — 4.5 mm

2d moult July 10.

Body green — Beneath yellowish. Blotches much less as well marked as before the S.D. 2d tubercles post 2 surrounded with many blackish mottlings: forming an irregular & ill defined dorsal & S.D. band —

3d month July 16.

The dark portions predominate having a lateral sub d. and slender dorsal bands The two former including on each segment 3d a black tubercle -
The tubercles bear very short black hairs among shorter & more numerous whitish ones and form with the irregular reddish & black mottling between which connects them longitudinally a tolerably well defined dorsal and s.d. band
Head yellowish with a post. superior black bar on crescent shaped mark.
Beneath greenish yellow. a few dots laterally - 2 or 3 yellow patches behind on post portion of s.d. & ground line -

4th July 20

Varies from a form wholly blackish with linear whitish mottlings, a whitish lateral and barely traceable sub-d. line with black head obscurely mottled to one in which yellowish white predominates the lateral and s.d. bands being very distinct: with a few black points beneath. There is a faintly well marked dorsal shade contained in the broad mottled black and yellowish dorsal band. A band similar to that separates the s.d. & lateral lines: head straw color w. a few black points - Both forms densely clothed with stiff whitish bristle-like hairs each tubercle

containing many fine and longer slender black hairs the latter. L. 11 mm
the same specimen with s.d. and lat. hairs dusky orange and bright yellow tint posteriorly.
5th month July 25.

Varies somewhat tho' not much in shade. Blackish black
mottled with whitish lines and dots, lighter beneath
than s.d. and lat. lines clearly marked in most
the former often indistinct and varying in shade
from cream color to orange: not traceable on ant. segs.
the lat. line well defined varying from cream to yellow
this is sub-stigmatal. Stigm. ♀ black ringed. Head black
generally w. two sup. and yellowish brown patches.
a frontal ^ mark. Short sup. post. L. 18 mm.
6th month July 31, Madison County.

Black with an orange substigmatal band which varies
in individuals and is hardly noticeable in some in
none it very conspicuous. Stigmata contrasting
white else entirely black. Hardly separable from
vectivaga to which it shows this sp. very closely
related. Differs in the absence of any signs of s.d.
marks on post segs. and by the absence of any intermixed
of finer hairs with the dorsal tufts. 28 mm.
Short sup. post. of moderate size. Spins cocoon
like this 2 nov. 9 Aug. 9 84 = period 55 days of egg stage.

Apatela superans.

Egg on glass - June 29.

Hatched July 6. Fed readily on poplar.

Somewhat slender. Light green w. tufts of stiff blackish hairs. On 1.4.7.8.11 a transverse dorsal band & wart prominences. Head pale yellow, having with a few brownish spots. Sct. Tub. black small. - L. 2.5 mm.

First moult - July 13

Pale bluish green. No dorsal wart prominences save blackish, and forming enlargements of two dorsal rows of pairs. A Sub. dorsal row of blackish tubercles and two smaller lateral ones. Head pale with large reddish black palates. L. 4.5 mm.

Second Moult July 17 (Thursday)

[illegible] and is edged more or less conspicuously & narrowly w. same color. The upper subdorsal row of tubercles beginning at 4 are broadly edged with white. Head whitish w. 4 ant 2 post black [illegible] and 4 post rings, at back dots. Tubercles black [illegible]

9th Jul 22.

A broad dorsal reddish brown band terminating on 11 in a round[illegible] containing a fine white defined central dorsal streak which is continued beyond 11 to anus in brown. The s.d. white line sufficiently clear, partly containing the upper row of tubercles which are large round polished black smaller & less clear on 2,3,10. A very fine whitish stipulated streak. The remaining parts blue green w. black tubercles of varying size many a few hairs those of the 2 ant 22 post segs (dorsally) very long. Parts on head longer. 11th

4th Jul 25.

The larva (4) did not flourish after this moult and died without growing much. Seem to be delicate and need fresh air.

Orgyia definita Packr.

Body as ordinary tufts.

Tufts as in "leucostigma" - Pale straw yellow.

The dorsal long pencil on 11 black with a basal sheath of straw colored fading into pale brown hairs

The ~~wedge~~ shaped tufts on 4-7 incl. bright straw yellow: The two middle ones (sometimes all) and a black median dorsal stripe from the post. one to the pencil on 11. ~~This median stripe after passed yellow~~ The pencils on 1 black -

~~The other tufts~~ The other tufts and portions of body including head and body pale straw ~~black~~ yellow -

September 4. on oak, zati various other plants.

Imago September — 9.

Barrodas Briareoides = Agrotis
monochromatica Haw. with cut sunflower readily. Will not feed on
unprompted.

Eggs July 3 hatched July 25th. Fed on sunflower
did not flourish on this would eat bindweed, chickweed etc.
Dark apple green yellowish posteriorly, head light-brown -
with blackish spots. A pair black ant. Tub. Dec. 3rd
enwrapped colourless Cocoon. Last 3 pros. Hfys. only perfect
Eggs 2 pupae colourless L. 2.5th.

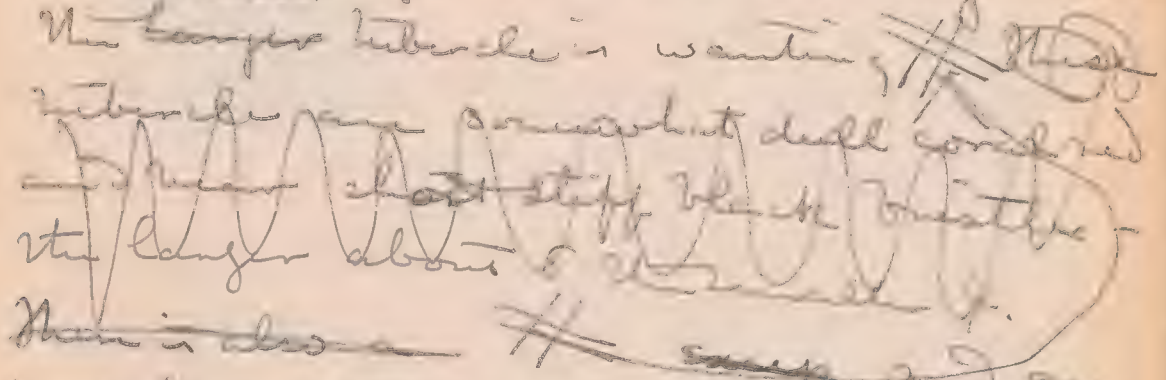
Fed on sunflower -

Apatela dissecta

Found about to moult on maple (rubra) ^Imago in May.^
Sept. 4, 1884 – on Cutts Island.

~~Ground color light yellow tinged with purple above. d. & s.d. = so that the d. and s.d. regions clearly marked off from the others.~~ D. & s.d. regions clearly defined from ~~the rest.~~ [illegible]. Body crossed by light yellow lines which form a network laterally and are strongly tinged with purplish dorsally & s.d. These alternate with less regular transverse bands which are black d. & s.d. and dull greenish in the lateral & ventral regions where they form meshes with the yellow ones.

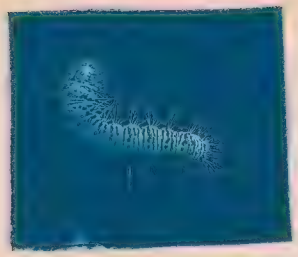
~~There are [illegible]~~ [illegible] dull [illegible] [illegible] d. [illegible]
~~[illegible]~~
Each [illegible] ~~[illegible]~~ has two lobes on each segment. The anterior ~~set~~ larger and set slightly more –

The median dorsal line, except on
sup 2–3 all tubes the tubercles are placed
transversely, and the last pair, which
the longer tubercle is wanting, the last
tubercles are somewhat dull colored

the longer about 6
Head is also
sup and 8(
tub. (8 in all). There are 4 small yellow
(brownish yellow at the base)
on either side of a median blue
white band: the anterior pairs being
a single rather long white, the
posterior pairs a shorter black bristle
for the dorsal space between the 2
anterior dorsal tubercles on each segment
are two conspicuous somewhat
circular black spots formed from
the interruption of the transverse

Clasp

Back Hands - Hands patch about wrists
tubercles and elsewhere tinged w. red
purple. Thumb is also sub. d.
Head & armp. with tubercles bearing
two or 3 long ~~filamentous~~ whitish
hairs and ~~also~~ around ~~base~~ yellowish
tuft - Tail 2.5. L. supports bearing
shorter whitish hairs - Stigmata
Black. Head yellowish freckled w.
yellow brown and a few darker
patches. Legs & prolegs yellowish -
L. 25 mm. Rather slender
Cocoon. Abt. pat. Pupa head bent round like
female in cocoon.
Spun Sept 11.

The color and ornamentation of 225. has a superficial
resemblance to Elapura and
Euleuca.



Macromedia omnibus
Lorem ex in 'vestis' of ions. Thumbs Sept. 18.

"Arctian" – Scepsis fulvicollis –

Found resting on grass at Kittery Point, Me.
Leaving hibernated. April 26, 1885.

Body black with with sub dorsal and sub stigmatal creamy white narrow bands the latter ending on Seg 10. A median dorsal row of nine pairs of jet-black tufts from Seg 4 to 11 inclusive those on 11 placed longit. the rest transversely. The Sub dorsal region is occupied by tufts of yellow hairs with a few black ones mixed especially ~~below~~ near the stigmatal region which is clothed with ~~of~~ black tufts. The Pectoral segments ~~legs~~ with the sub-stig are clothed with whitish tufts. The Anal and Sep are clothed partially so. Head polished black dull shining and so. as anterior central black Δ. Heat and legs dull coral red. Prolegs black. Stout L. 30m.

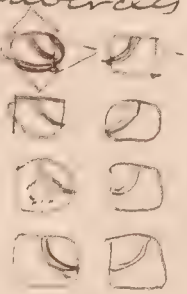
Easily mistaken for Halisidota maculata minus the pencil tufts – Eat Grass and Spun May 1.
Changed My 7. Imago May.

Argyia definita

Eggs Sept. 1884. Hatched May 31. 85

out of Egg.

Dirty straw color. a dorsal double row of tubercles which are blackish on 4-5-6-7 especially and slightly on 9 10 11 a sub. d. row w. minute black pts at base of hairs tipping with a very prominent tubercle on extreme side of Leg. 1. Hairs of above slightly tinged. Lateral and lower tubercles smaller bearing shorter white hairs.



S. d. and d. Ex. 4-5-6-7 transform very low, hairs (twice as long as larva when hatched.

2.3 m m

Sesquicornum fraxinea

Larva on Hammamelis virginica. June 15-?
at Malapen Mass.

Color pale gamboge yellow running into more or less livid white between the Segments. The first, and last two segments entirely livid white. Legs & prolegs livid. Stigmata white, black ringed elliptical. A few very minute prickly hairs arising from faintly indicated (~~crenate~~ dark) points. Head shining very slightly tinged and mottled with light brown. A singular looking saw fly like larva. resting with the head bent down & under as in Skylina to which it is probably allied and curling up when handled 30 mm. Only slightly hairy. Coccoon ~~on~~ Found on surface of earth June 24.

Reared at 48° abt. for stages. Larva B.

Acronycta

Near rostivaga Lange.

Jn 19. Six eggs. 4 hatched 27-8

Period fr. hatching to 1st st. 26-7 days
Larvae were reared in watch box in water
Pabulum Lost stage.

1st Stage. Segments 1.4.7.8.11 colored dorsally a dirty shining reddish brown, the color extending down to the lateral subspiracular region, leg 2 more yellowish brighter. A double dorsal row of large flat dorsal hairy tubercles those on 2-5-6-9 dirty brown rounded with dull whitish patches on either side. The corresp. tub. much smaller on 10 large on 11 and stiff haired. Lateral and ventral regions dirty white. The sub dorsal regions of the uncolored segments dirty yellow brown. Head dirty dull red brown. Body hairs blackish pro cumbent s.d. minute, short lateral setae shorter nearly straight. Stigmata black light ringed. Hairs under higher power flecked w. whitish. Anal segment whitish with darker tubercles. L. 2.5. mm. Brunnea type.

2d stage - July 1.

The red brown stain duller and more extended laterally on all the segments. The light portions less marked and more suffused in the red, less on dorsal 10. The whitish portions dirty greenish, less well marked. Head like much as before the hairs shorter and stiffer in proportion. L. 5 mm.

3d stage July 4.

Colors more suffused darker. The dorsal light patch on 10 better defined, 2 subdorsal dots on 11 defined lateral light streak.

4th Stage July 8.

Brisk Black lined with a few lighter and more whitish hairs intermixed. Sup. post first 4 sup: A well defined sub stigmatal orange yellow band slightly suffused post. and obliterated anteriorly - 2 well defined ~~along~~ along its (upper) orange yellow spots on d & nearly s.d. 10. Tubercles on 2 tufts 11 prominent. Body dull black the tubercles pon interna Lateralia broken by lat. lab. & end seg. Head nearly mottled 10.5 mm.

5th Stage - July (Sec. Am.)

All the Tubercles narrowly ringed with whitish and the blackish portions dotted and mottled sparsely with whitish. The lateral s. stig line more heavy-orange. Under portion mottled w. yellowish Dorsal patches on 10 clearly defined-orange. Head nearly black w. few mottlings and the dorsal ant. lateralia

L. 14 mm.

6th Stage. July 13-14.

Intermixture of fine light hairs on 5-9 Sup the ~~sub~~ dorsal and s.d. of ~~the~~ segs in 3 of the larvae quite abruptly from the segs ant. & post to them: in one the gradation is more gradual. The segs ant. to these 5-9 have also an intermixture of similar hairs which are smoky almost black. These hairs have a rigid look and are straight & rigid but tend to curl and are studded at with short pointed projections also rigid from base to

The coloring is as in previous stage: The ground color = clear black the tubercles not ringed: the lateral line hairs the stigmata more distinct & contrasting white. Head blacker. A few black hairs on seg. 2 much longer than the rest - Legs and prolegs black - Yellowish mottling of under parts more distinctly yellow.

Apatela sp. nov. ?

Malum Lane - July 18.

~~Infra~~ Anterior and post. dorsal tufts not defined by the color of the fine hairs. These latter all more or less tinged w. smoky blackish the less posteriorly (ant. 11). Body color less clear black. A suff. manifest dorsal velvety black band ~~on~~ varying much in distinctness and hardly extending anteriorly beyond 4th s. The two dorsal or sub. dorsal ~~yellow~~ orange patches on 10 distinct; in some continued anteriorly on each segment by a yellowish orange shade gradually dim appearing anteriorly (not beyond 7 in others) (No 4) Sub stigmatal orange band varying in distinctness ~~from~~ most ant. to 4. Stigmata clear contrasting white in stigmatal pt. Head mainly black shining; ~~some~~ white - prop black (Tubercles much lighter shining) ... &c.

Spun July 24 25 = cocoon of blackish silk.

Orgyia definita Pack.

Instead as in "leucosigma". The long pencils black
the posterior one shaded with pale straw colored hair
wedge shaped dorsal tufts on 4-7 (3rd) bright straw yellow.
and their tubercles generally only the two middle ones,
sometimes all more or less ringed with black the ring
connected by a dorsal black band which runs past the
the post pencil. This ring often reduced to mere ines a
post the two middle tufts. Other tufts pale whitish
or straw color. Dorsal band on 8-11 generally distinct
evenly with dull red blotches corresp. to the reduced
spots of (leucosigma) but often almost entirely suffused or
obliterated v. straw yellow. (d. 5d 2 lat rg.) Body straw yellow to greenish
yellow with more or less distinct green s.d. & stigmatal spots
and a fine ring-like mid. green d.l. Stigmatal green
lower. Supraanal white black ringed. Lower portions
bright green to yellow green. Head & legs straw color.
Imagines July 20 - 30+ ♂♀ - 16♂ 12♀ or more.

~~Laphria 3 lineata~~

Macrocalta cinerea

Larva in stems and roots of Iris versicolor fol 27.

Near Sackville - but shorter w. longer head
Above reddish and dirty white the reddish tinge being concentrated in a s.d. band fainter defined inf-
Interior 2 or 3 segs almost wholly reddish above -
Laterally and ventr. dirty white Stigmata blackish well marked. Apex minute tubercles bearing short hairs
a stiff 2 sub. stiff rows somewhat longer rounded flat
prominences. Shield yellow brown with a clump of darker
points on either side. anal seg. dirty brownish - Head
almost chestnut brown shining. Short ant. Cap shaped
palpi.

[illegible]

[illegible] in [illegible] and [illegible] of this [illegible].

July 27. Malm. [illegible] [illegible].

Blepharita 3-linata

Malm lv. Color blue green. A single sub-dorsal heavy clearly defined yellow band from head to anus the included dorsal surface ~~white~~ blueish. edged ext. w. dark green. A sub-stigmatal whitish line on 1-3. Stigmata yellowish Head lyo and prolys green - L. 30 mm Malm slender near Lophodonta more slender tapering more anteriorly.

Feeds on populus (tremuloides). ~~cocoon~~ - 40-50 mm -

Spins faintly firm cocoon

Geom[illegible]d

Feeds on raspberry. Salmonier Newfoundland Aug. - went into earth [illegible] Aug. 25-

Dark green above light below somewhat variegated with lighter lines in places. An indistinct narrow dorsal dark line. On segs 4-10 inch. a dark salmon yellow ~~A patch~~ dorsal patch the base portion, ~~and~~ broadly edged ant. with purple, the patch on 11 ill defined and united with that on 10 by a dorsal purplish line. And plate purple. A stigmated whitish line edged below w. dark green and stained & mottled with purple on 1-3 and 9-10. Legs & prolegs w. a few reddish dots: head green w. 5 ~~antenna patches~~ powdering of reddish mottling in ant post bands. slender. Few short colorless hairs - dl.

On Abies at Salmonier N.F. found the same at Mt. Desert. Rests on under side of twig.

Color Dry pl 5 spruce green, a heavy median dorsal, and sub-dorsal white-cloud defined lines. A heavy stigmatal band narrowed or broken between the segments, forming a series of pointed ovals one on each segment. The upper and rather smaller half red purple. The lower white shading to yellowish on 1-4 ltrs form a translucent dirt band. A rather heavy green yellow line at the base of each leg and prolog. Lips sparingly reddish, head green. Stigmata light brown bisected by the red and white fields which are clearly defined from one another in a straight line. L. 1 50mm 1 rather stout. Slightly tapering. Situs Santa Ana. 9-

---

prob Andrea nanus Ste.
Head mottled whitish & brownish with pearly ground
a light line from base around Thus (X) L. 24 mm
all dead.

Salmonier
Aug. 16
Larva pink prob Amelia?
Head black a dorsal row of rounded [illegible]
3a 2a 2p on the not and forming a [illegible]
11 [illegible] a stigmatal row of irregular [illegible]
a pale pink [illegible] 1 [illegible]
[illegible] 1 [illegible] [illegible]
[illegible]

[illegible]

4 found on spruce at Bethlehem N. H. Aug 15 '8[illegible]
Resting on upper and lower surface of twigs - [illegible]

A very difficult larva to describe with definiteness. General color a rusty brown varying to almost black and white in [illegible] or [illegible] - A median dorsal [illegible] [illegible] [illegible] [illegible] between [illegible] and contracted in their middle portion where it passes between two [illegible] [illegible] tubercles [illegible] black and [illegible] [illegible] which are [illegible] [illegible] and [illegible] (S. shaped) [illegible] another [illegible] but larger [illegible] [illegible] [illegible] [illegible] ~~these tubercles alone occurring~~ on the last and on 1, 2 & 3 segments the first mentioned set being absent ~~except~~ for a minute [illegible] tubercle in corr. position. 12 5.1. The D. S. tubercles of 1 bear short stiff thick black pencil tufts and those on 2 & 3 are larger than the other posterior ones except those on 4 and 11 which bear pencils similar to 1 but longer (nearly [illegible]) about 2 mm. Another ~~round~~ tubercle just above each spiracle also a ~~smaller~~ one just below and a smaller behind [illegible] the 3 half enclosing the spiracles. Lastly one at base of each leg. The region about the [illegible] tubercles is [illegible] and is pale rust brown [illegible] [illegible] [illegible] color of the larvae [illegible] the two younger ones [illegible] region was almost black the [illegible] being dark [illegible] by a series of somewhat crescent shaped [illegible] cream colored arising just below each spiracle [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] [illegible]. [illegible] [illegible] [illegible]

Plusia moneta Fabr.

Eggs laid on Blazing Star (Liatris
Hatched Aug. Round on 2nd flower after 3rd stage .. 1 Aug. .

First stage. Elongate. light-green with conspicuous black
ant. tub. bearing each a simple slightly curved blackish hair -
Hd tub. and 2 s.d. The upper anterior. One sup. stig. curved. sup
and slightly ant. each ~~stigma~~ spiracle. One stigmated post. each
spir. One sub. stig. curved below each sp. another post this and
slightly inf. to it. A small ant. at base of each leg -
one median ventral and 3 in position of legs on. 567 (2 on 4)
On 3 ant and lastly this arr. is somewhat modified. Head
green w. a few minute hairs -

Second Stage. As before. Hairs of head ~~and~~ body and tubercles no longer
a single s.d. and sup. stig. white line - less cluster
24.
2nd ~~24~~ Third stage. S. dorsal line widely double antic. of
2 fine white streaks = the ant. end dors. space. Supra
stig. line distinct. All have wavy irreg. outline -
Head tinged w. yellowish - S.
(in pocket)
Aug. 28 - Fourth Stage. As in 3 but with the two dorsal lines
clearly defined running ant. to inner s. ds. starting marks
written on e.g. 2. Other lines having a more clearly defined wavy outline the two dorsals and inner s. ds sometimes joined by
fine lines. A few white marks and traces of a line between
outer s. ds and lat lines. also of a s. stig line. Tubercles distinct white ringed. Head
tinged w. brown. 12 mm.

5th stage Sep. 1 – As in previous stage. The lateral line more distinct the others somewhat less. Tubercles white ringed L. 20 mm

6 stage. Sept 5th. = Malina larva.

Bright grass green. ~~Four whitish dorsal stripes of long cottin fibres connected with one another and two almost sub dorsal the~~ wholly divided by a pair of whitish slightly suffused lines. continuous of the connected upp. post stripes lying either side the narrow clear dark green median dorsal region. A fine but more clearly defined marked S.D. (the outer s.d. of row. 1) line tinged w. yellowish. A clearly defined stigm. stripe. narrow band extending slightly beyond the last spiracle. Head & prolegs green w. brownish yellow lines. Spiracles brown yellow oval black ringed. Sat. tub. as before minute white ringed. Remainder of body clear green with a few white points and short setae hairs. Skin rough. ant. Head rounded. 35 mm

Cocoon of fine greyish brown silk very loosely spun in leaf. Pupa of usual phisian shape abdomen slender the polished black brown wing cases tinged s. green. Spun Sep. 11th Image Sep.

N. Y. C. R. R. Co.

Page 3.

Agrotis (Euxoa) astricta Morr. Feeds on many herb. plants. Found on Helianthus.

Eggs laid Aug. 15th Salmonier N.F. Hatched Aug 24.

Egg (flattened) surface broken by ridges about 34 nearly equidistant at first lying obliquely from micropyle, intersected by ridges about equal formed by thickenings of cells of egg, which also connect the more prominent ridges.

First stage. Livid with green refl. from intestinal contents. a number of clear black rather large tubercles, w. each a black curved hair. There are 2 sub dorsal the posterior slightly posterior (2) a sup. stigm. just above each spiracle. (3) a stigmatal just post each spiracle & a sub. lat. ring below each spiracle On 2 & 3 there are four a row of dots the upper sub-median dorsal running down and forward to the stigmatal. with a larger tubercle ventral. below and post to this a base of each prolegs. on 1 the brownish frontal plate contains four on either side with a row of three running down from the post margin the middle of these ant. spiracle and ant. the other two. on 5 3 on either side the median ventral line arranged in Δ the base post and the outer lateral round the Cervical. On 4 and 2 come to post 2 of these. Prolegs light-livid yellowish or brownish ringed or partly ringed with black & w. fine short hairs. Head brown w. fine black dots bearing short hairs. Two anal pairs of legs not functional. L.

2nd stage. Color red brown, ringed w. dark green ant. & post. A dorsal and s.d. white streak the latter with an indistinct line just below it. A broad green lateral band. Tubercl. whitish ringed. Beneath green w. brown flecks. Head ringed w. yellowish. L 6 mm.

3rd Stage. Like 3. Much as before the red brown heavier. Dorsal region lighter and yellow green next with some mottling and distinct black dots tubercles. Lateral red brown green color. Under parts dull w. red. Head mottled w. black pts. L 8 mm.

4th Stage Sept 13 As before more clearly marked

5th Stage Sept 18. Lateral band very broad clearly edged above w. pale yellow, the remainder white with red streaks and mottlings. A central dorsal white streak interruptedly edged with chocolate brown. Dorsal portion almost salmon red mottled with chocolate brown and whitish spots and streaks. 2 black dots on each segment edged behind with white. Below this dorsal region up to the pale yellow sub-stigmatal line the color is dark chocolate brown with lighter and darker mottlings almost black about the spiracles, and extending into the dorsal region 1/4 of a segment, an oblique ill defined purplish brown dash somewhat above each spiracle extending anteriorly. To a tolerably distinct black dot. Legs and prolegs dark brown the latter mottled. Head shining light brown mottled w. blackish a pair of longitudinal black ant. streaks curved slightly inwards.

Rusia Putnami.

Color clear yellow-green. A moderately heavy ~~yellow~~ creamy yellow stigmatal band. 2 fine dorsal and two sub. dorsal wavy lines also creamy yellow with a greenish tinge. The 2 dorsal more distant than the s.d. or than they are fr. adj. s.d. Space betw. outer s.d. and lat. = dors. and outer s.d. no intervening whitish marks. Tubercles very minute black points w. minute hairs. Head and legs green. Elongate sl. flattened. Jap. ant. from about 8.

Egg on grass Sept. 25. Found in pocket. Fed on plantain latterly.

hoch.

a Boldrucks. der Blumen grün

Lasia Rossii

Near Summit of Mt. Washington on ground.
Arctic like. Short and broad. Body black. Thickly clothed with smoky colored hairs mostly feathered the lateral longest. A distinct sub-dorsal line yellow at base — as am also most of the hairs on 1st 3 segments. Lateral hairs also slightly tinged at base w. yellow. Head legs and prolegs black — Cocoon round like Habrostola maculata found on bare rock. Lasiocampa sp. reluctantly. Identified from cocoon which have no doubt of species.

Fenalia picea? Grm.

Amago resting on maple twig April 13. 1890.
New Haven. Conn. (Prospect St.)

Confined with a variety of food plants laid eggs, about 40 in number April 15-17. Food plant Abies

Egg prosperic. Large, greenish yellow subhemispherical flattened at apex 1x .6, mm. Marked by paral. ridges radiating from the slightly flattened apex where they anast indefinitely, meaning branched or labyrinthine and at the periphery .02 mm apart: connected transversely by fine ridges about .01 mm apart

Egg hatched April 27-30.
Fed on Abies canadensis buds and young leaves.

1st Stage. Larva moderately stout, greenish yellow without apparent markings. Head medium pale brownish. Shining conspicuous. Sparsely covered with short stout hairs. Marked by the enlargement of the second and penultimate segment. 5 pair of legs. Prolegs green. Length 10.0. 5 mm

2d Stage. May 4 moulted. 10 mm

bright green and tinged anteriorly with reddish yellow. A dorsal subdorsal and stigmatal longit. band more or less distinct greenish white the latter broader. Head green. Thoracic and spir

3d Stage 2d moult passed May. 7-9.

Bright dark green. The bands clearly defined the stigmatal being creamy white broadly edged above dirty greenish and brown. All bands from head to anus. Length 15 mm

4th Stage 3d moult passed May 11-

As before but more distinct stripe laterally bordered sup. by subdorsal band. prolegs reddish 20 mm

5th Stage 30 mm x 4 mm.

Markings as before clearly clear white dorsal & subdorsal bands constricted & broken intersegmentally. Stripe on head yellow broken intersegmentally broadly edged above with crimson which usually runs down in a point above the spiracles ca. 11 the spiracles

The anal horn - A subdorsal band of dark [illegible] and consisting of a white spot on each ring (at base of each tubercle) Color clear dark green pale green dorsum, Ventral ground color pale green prolegs reddish.

Cocoon subterranean pupa in 8 days - from 1st note made 12 days 1891.

Cerurea

manuscript.

Eggs laid 26-29. hatched Aug. 9 +

Egg light-green or milky: ~~subhemispherical~~ brown, dead whitish ~~with~~ having a circular blackish dot at apex with central whitish mark of radiating lines. Surface finely reticulate, the reticulations subhexagonal about 3-4μ diam. Egg 1.2 mm trans. diam. laid with a loose coating of ~~scales~~ long slender arrow shaped black and white scales.

Young Larva 1st stage.

Chromosomes

Young leaves, nicht purple or dark brown
S.d. and lat. band each mesen less defined
with yellowish. Sail ~~and~~ brown long. ~~opening~~ black
purple. Vertical ~~surface~~ lighter. Length 5-5.5 mm width
Width 9-10 mm.

2d Stage. first month. Aug. 16.

Reared in a warm room —
Copepanolis arcuatus

Eggs laid Apr 10 sq. Hatched Apr. 17.

Pinkish or flesh colored becoming darker .95 mm in long. diam subhemispherical crowded ridged, with fine network. .14 mm high

Ridges sublaterally from 20-22 at margin the main ones originating indefin- nearly the apex the second many arising either as branches from the or independently lower down. Fed on buds of leaves eating out the center and making a little cave.

1st Stage

Wholly dirty yellowish sometimes with tinge of reddish. Head shining black subcarinate. Large prominent plate black also small ones on sides. Spots and plates black. Legs of usual number (6) pairs black. Anal plate black. Spiracles like small tubercles dusky. Pupa in a loose cocoon of packing in a cave dry part of the with attaching threads.

2d stage (moulted Apr. 2)

wholly dirty yellowish. Head black.

2d Stage April 25

Dull reddish irregularly mottled with whitish or grey

4th Stage 1st April 28

Sup[illegible]. 1

Ground color dull reddish, conspicuously mottled with white
Head light shining brown, edged w. black dot. frontal plate with a shaped
yellowish white mark the short-stout cornual ears part
towards the head and sometimes separated from the horiz.
so that they appear to be two marks a posterior long
transverse one and a smaller anterior opposite its
middle, just behind the head. Anal plate edged w. yellow
ish white (cream color posteriorly. Stigma - black with
central white dot - 2 ringed w. whitish - Legs outwardly
black. Whips ash anterior part of body when dist-
ended lions in case like Xylomyges and resembles
Lithosph. 2 Scopulos. group.

5th Stage 4th moult. May. 1 [illegible]

Mature Larva. Ground Color rather dull purplish red
the brightness and degree of redness varying in different
individuals: body ~~covered with~~ flecked and mottled with
~~the~~ Flavish white in small spots of irregular and peculiar
shape. The whole dorsal ~~area~~ region is more or less
suffused with whitish under this mottling the degree of
suffusion varying considerably the dorsum of some

individuals appearing almost wholly whitish.
Thoracic shield as before the white patches longer more
contracted and often extending posteriorly so as to divide
the shield completely by a fine median white line.
Abdomen black with lighter centre. Anus as before.
Spiracles Coronal or rather setiferous tubercles & short golden hairs.

Entire Pupa [illegible] having turned almost wholly
greenish white thro' obliteration of much of the red ground colour
finally becoming almost wholly green.

Many of these larvae were killed in the diff stages by
Sporotrichum Landauia = S. globuliferum Speg.
The larva when mature still feeds in case between
two leaves and resembles Hyponomeuta and Hyponomeuta
closely. Spins a loose cocoon, and transforms in its
[illegible] feeds on leaves in simple cavity.

1. Apr. 17. ~~2. Apr~~
2. " 21
3. " 25
4. " 28
5. May 1 Mature
5 ~~pupated~~ ~~cocoon~~
12 Pupa.

would not eat Pyrus Fagus
Castanea Salix
Cornus
Betula
Rubus
Prunus
Fragaria
Carya
Rosa
Rumex
Plantago
Corylus

The same larva
found in abundance
on oaks in vicinity
of Station May 13
in various stages

Parorgyia

Found on Abies canadensis - Woodbridge Conn June 27/11

Body mottled greenish gray; a black supr. stigm band and a more or less broken dorsal black band more conspicuous on the last 3 segments. Stigmata yellow. Prolegs shining brown head shining dull brownish

On Segm. 1st and 2nd sub. dorsal ~~behind~~ long tufts of elevate black scale hairs and a similar dorsal tuft on seg. 11 ~~gray~~ smoky at base. Also similar lateral tuft on 12

A substigmatal and subventral row of greyish tufts Each substigmatal tuft with a central band of conspicuous elevate black scale hairs. A supr. stigm row of smaller tufts flecked w. white scale hairs mingled. A sub dorsal row of tufts on segments 4-7 fused so as to form a large transverse smoky dorsal tuft flecked with short clavate dense white scale hairs. esp. at anter. edges on segs. 2-3 and 8-10 Also s.d. tufts are largely composed of these dense white scale hairs with a few projecting projecting hairs. On segments 9 & 10 a single conical and glandulous cylindrical body

which is protected by a number of tissues.

Fenalia

Moths found April 13 resting on maple trunk. Confined with various food plants among them hemlock laid about 40 eggs April 15-17.

Eggs pyramidal. Large, greenish yellow subhemispherical flattened at apex. 1 X .6 mm. Marked by parallel ridges radiating from the flattened apex when they arise indefinitely becoming branched or labyrinthiform and ultimately .020 mm apart. Connected transversely by fine ridges about .010 mm apart.

Eggs hatched April 27-30

1st Stage. Larva moderately stout greenish yellow without markings. Head pale brownish w. black ocelli. Stigmata small. Sparsely covered by short straight hairs. Humched by the enlargement of

Ulcerated penultimate segment
Legs stain. polyp gum.
Mouth Many.
L[d] Sl[ge].

Marasmalus ventilator Fitch.

Eggs on sumac (Rhus typhina & glabra.)
June 5. Cream color soon changing to reddish by the appearance of numerous reddish mottlings. Flattened, slightly pear shaped, with a short apical truncate prominence from the base of which radiate parallel ridges which are intersected transversely by fine ridges. Base large flat, adhering continuously. Size large in proportion to that of imago. The transverse diameter being about .7 mm.
Hatched June 10.

Young larva

Light green or yellowish green: with black retiferous tubercles bearing black tapering hairs - two dorsal, sub-dorsal and lateral rows. Head jet black. Eyes and mouth blackish at base. Frontal plate of leg. 1, black. Ratum about .3 mm., five pairs true legs.

Second stage June 15.

Light yellowish transparent with green of intestinal contents. The sub dorsal rows of black spots containing the tubercles larger than the others. A fine light line

pass the sup. sub-dorsal and lateral rows. Head greenish yellow. Prolegs light green shod tapering posteriorly. Head somewhat retractile L. 4.5 mm.

Third Stage June 20.

Greenish white with a powdered appearance the black spots with the exception of the sub-dorsal and sub-stigmatal rows are hardly visible: the latter are large and contrasting. The sub-stigmatal spots on segs. 2 & 3 are smaller and placed somewhat superiorly to the rest: lacking on anal segment. A large gamboge yellow patch between the two rows of spots, on each segment. Legs and prolegs light green: ~~stained~~ washed. Head greenish yellow. L. 7 mm.

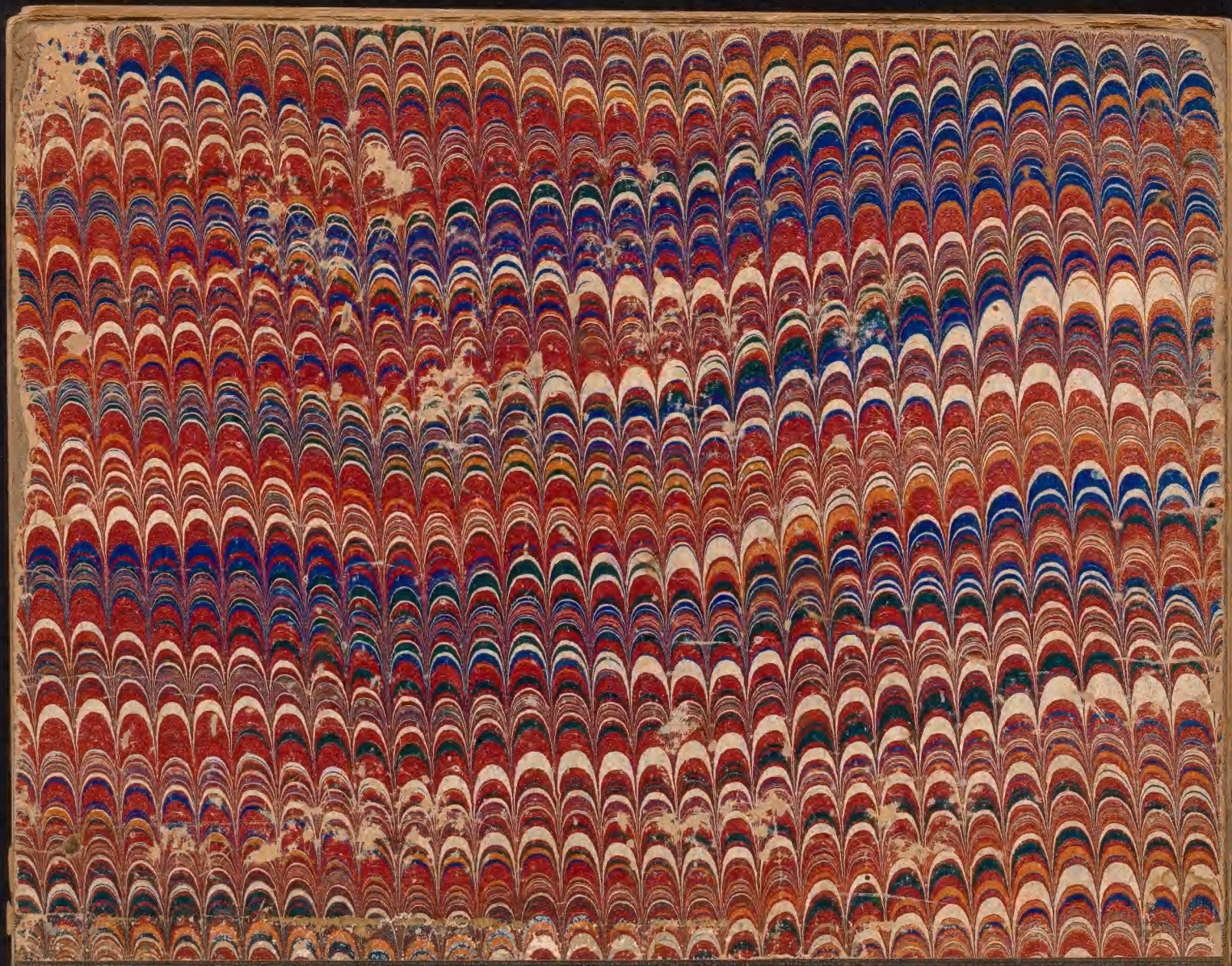
Fourth Stage. June 24.

Much as before with a whitish appearance Spots larger, round. Yellow markings more greenish. Third pair prolegs and anterior of seg. 1, yellow. Whitish patches broken by green fumosities. L. 13 mm.

Fifth Stage June 29. Median Larva Spots much larger and reduced to a sub-dorsal row — two spots on each segment. The

anterior twice as large as the posterior and a stigmatal row, the spots being round and including the stigmata. Anal plate and prothoracic plate of segment 1, black the latter terminating externally and anteriorly in two black dots. A black dot at the base of lip (except last pair) and two at base of prolegs. A large black reclangular patch on head. An indistinct fine whitish stigmatal line. Matured and changed its color July 3d spinning a blackish cocoon in moss July 4th.

This pretty larva is very distinctly marked and its conspicuousness may account for some extent for the rarity of the imago which appears in May and June.

Marasmarcha vestris Grote.

[redacted], Oligia oppressa Lint
obscurely mottled
General color flesh, a median
dorsal whitish line broken anteriorly
or splitting
bordered by irregular whitish flecks
which extend down to the stigmata on
a point on Leg. 7, and broaden abruptly
on Leg 4 and [redacted] an absolute
Leg. eleven abruptly bunched with a
contrasting white spot on either side
an indistinct lateral whitish line
contrasting w. clear black above. Stigm.
black. Legs & prolegs dull whitish w black
bands. Head black w. whitish mottling
a few pt black set. tubercles w short fine
hairs. Head small form rather slender
much slender in region of 3rd & 4th Legs
tapering rapidly thence to head. Varies
in form w. much mottling &
a fuzzy appearance. Number & phil
pine Kutting pt. Sep 2[redacted]. 27th Work.
Cocoon in [redacted] wood.
Larva March in house